CLAIMS:

1. An implantable medical device comprising:

a plurality of integrated circuits;

a plurality of discrete components;

a circuit board that is coupled to each of the integrated circuits and discrete components; and

a housing to house the circuit board,

wherein the circuit comprises first and second surfaces, each of the integrated circuits is located the first surface, and each of the discrete circuit components is located on the second surface, and

wherein at least one of the integrated circuits and discrete components are arranged on respective first and second surfaces to substantially conform to a predetermined non-linear profile.

2. The implantable medical device of claim 1, wherein the first surface is oriented away from a cranium of a patient and the second surface is oriented toward the cranium when the implantable medical device is implanted on the cranium.

3. The implantable medical device 1, further comprising a telemetry coil within the housing that encircles the circuit board.

4. The implantable medical device 3, wherein the telemetry coil is substantially uneclipsed by the circuit board.

5. The implantable medical device of claim 3, wherein the circuit board is located substantially within a first plane and the telemetry coil is located substantially within a second plane, and the first and second planes are substantially parallel.

6. The implantable medical device of claim 5, wherein the second plane is located closer to the surface of a cranium of a patient than the first plane when the implantable medical device is implanted on the cranium.

7. The implantable medical device of claim 3, wherein the housing includes a central portion and a taper portion, the circuit board is located within the central portion, and the telemetry coil is located within the portion.

8. The implantable medical device of claim 1, wherein the predetermined non-linear profile comprises a profile of the housing.

9. The implantable medical device of claim 1, wherein each of the integrated circuits has a height, and the integrated circuits are arranged on the first surface of the circuit board such that the heights of the integrated circuits predominantly increase from an edge of the first surface of the circuit board to a center of the first surface of the hybrid circuit board.

10. The implantable medical device of claim 1, wherein each of the discrete components has a height, and the discrete components are arranged on the second surface of the circuit board such that the heights of the discrete components predominantly increase from an edge of the first surface of the circuit board to a center of the first surface of the circuit board.

11. The implantable medical device of claim 1, wherein a thickness of the circuit board including the integrated circuits and the discrete components is less than or equal to 3.8 millimeters.

12. The implantable medical device of claim 1, wherein a radial thickness of the housing is less than or equal to 5.2 millimeters.

13. The implantable medical device of claim 1, wherein the circuit board is substantially concave along at least one axis.

14. The implantable medical device of claim 13, wherein the circuit board comprises flex tape.

15. The implantable medical device of claim 1, wherein the housing comprises a feedthrough that is oriented at an angle relative to a major surface of the housing.

16. The implantable medical device of claim 15, wherein the angle is between 0 and 90 degrees.

17. The implantable medical device of claim 16, wherein the angle is approximately equal to 45 degrees.

18. The implantable medical device of claim 15, wherein the feedthrough is oriented substantially along a radius of the housing.

19. The implantable medical device of claim 1, wherein the housing comprises a first housing, the implantable medical device further comprising a second housing that houses a power source that provides power to the integrated circuits and the discrete components.

20. The implantable medical device of claim 1, wherein implantable medical device comprises an implantable neurostimulator.

21. The implantable medical device of claim 20, wherein the implantable medical device delivers stimulation to a brain of a patient.

22. An implantable medical device comprising:

a circuit board;

a telemetry coil that encircles the circuit board; and

a housing to house the circuit board and the telemetry coil,

wherein the circuit board is located substantially within a first plane and the telemetry coil is located substantially within a second plane, and the first and second planes are substantially parallel.

23. The implantable medical device of claim 22, wherein the second plane is located closer to the surface of a cranium of a patient than the first plane when the medical device is implanted on the cranium.

24. The implantable medical device of claim 23, wherein the housing is substantially concave in two axes and includes a central portion and a taper portion, the circuit board is located within the central portion, and the telemetry coil is located within the taper portion.

25. The implantable medical device of claim 22, further comprising:

a plurality of integrated circuits; and

a plurality of discrete components,

wherein the integrated circuits and discrete components are coupled to the circuit board, and a thickness of the circuit board including the integrated circuits and discrete components is less than or equal to 3.8 millimeters.

26. The implantable medical device of claim 22, wherein a radial thickness of the housing is less than or equal to 5.2 millimeters.

27. The implantable medical device of claim 22, wherein the circuit board is substantially concave along at least one axis.

28. The implantable medical device of claim 22, wherein the circuit board comprises flex tape.

29. The implantable medical device of claim 22, wherein the housing comprises a first housing, the implantable medical device further comprising a second housing that houses a power source that provides power to the circuit board.

30. The implantable medical device of claim 22, wherein implantable medical device comprises an implantable neurostimulator.

31. The implantable medical device of claim 30, wherein the implantable medical device delivers stimulation to a brain of a patient.

32. An implantable medical device comprising a housing that includes a major surface and feedthrough that is oriented at an angle relative to the major surface.

33. The implantable medical device of claim 32, wherein the angle is between 0 and 90 degrees.

34. The implantable medical device of claim 33, wherein the angle is approximately equal to 45 degrees.

35. The implantable medical device of claim 32, wherein the feedthrough is oriented substantially along a radius of the housing.